EQUIPMENT LISTS FOR DISCRETIONARY ACTIVITIES

Mod 1, Unit A

2 glass canning or mayonnaise jars (or 1 to re-use if you have access to a sink)
paper towels
ice cubes
2 tablespoons salt
aluminum foil
matches
a small amount of water
computer with Internet access for research
PowerPoint software and projector
poster board and markers
balloons
string
glass rod
samples of nylon, wool, fur, silk, paper, cotton, hard rubber, polyester, PVC plastic

Mod 1, Unit B

example electricity bills
1 piece of corrugated cardboard, at least 8 in. x 8 in. (20.3 cm x 20.3 cm)
pushpins/thumbtacks
ruler
pencil
cutting tool or pair of scissors
glue or tape
1 large nail, 3.5 in. (9 cm) or longer
2 fender washers with holes large enough for nail to fit through, outside diameter of about 1.5 in. (3.8 cm)
4 high-energy ceramic bar magnets: ⅜ in. x ⅞ in. x 1 ⅞ in (1 cm x 2.2 cm x 4.8 cm)
several metal washers with inside diameter of about ¼ in. (0.6 cm)
200 ft (61 m) of 30-guage magnet wire
sandpaper
1 miniature incandescent bulb, 1.5 V 25mA

Mod 1, Unit C

computer with Internet access for research

Mod 2, Unit A

computer with Internet access
PowerPoint software or poster board and markers

Mod 2, Unit B

computer with Internet access for research
users' manual for various power tools
respirators
goggles
gloves
hard hats

steel-toed shoes
hearing protection

Mod 2, Unit C

computer with Internet access

Mod 3, Unit A

computer with Internet access

Mod 3, Unit B

candle, canned heat, paraffin, and other appropriate fuel sources
matches
watch glass (optional)
water
thermometer, celsius
hot pads
ceramic fiber pad
glass rod
graduated cylinder, 100 ml
safety goggles
triple-beam balance
calorimeter kit
compressed air supply (for example, compressed-air tank with pressure gauge and shut-off valve, about 6 gallon capacity charged to 100 psi)
plastic (polyethylene) tubing:
1/4" OD tubing: one 20-ft length, one 10-ft length, and two 6-in. lengths
5/16" OD tubing: one 10-ft length
rotameter, 50 to 450 SCFH
pressure regulator, 0 to 30 psi
pressure gage, compound type, 15 mm Hg vacuum to 30 psi pressure, with connecting tee
quick-connect fittings for polyethylene tubing, 1/4" diameter for regulator, rotameter, and pressure gage
connectors for plastic tubing (two quick-fit adaptors, 1/4" to 5/16")

Mod 3, Unit C

computer with Internet access
2 white cans
2 black cans
2 cans of another color
water
equipment for Fermentation Challenge: Making Ethanol from Cellulose, see:
http://www.glbrc.org/education/educationalmaterials

Mod 4, Unit A

computer with Internet access
tubing various lengths and diameters
buckets
water under pressure (e.g., flowing out of a faucet)
PowerPoint software, computer and projector

oscilloscope
6 lemons
7 alligator clips
6 pennies
6 large metal paperclips
knife
voltmeter
light emitting diode (LED) that requires low voltage and low current
calculator that requires low voltage and low current

Mod 4, Unit B

PowerPoint software, computer and projector
computer with Internet access

Mod 5, Unit A

computer with Internet access
computer with PowerPoint presentation software installed, projector and screen

Mod 5, Unit B

computer with Internet access
computer with PowerPoint presentation software installed, projector and screen

Mod 5, Unit C

computer with Internet access
computer with PowerPoint presentation software installed, projector and screen